

USAWC STRATEGY RESEARCH PROJECT

CAPABILITIES-BASED PLANNING – HOW  
IT IS INTENDED TO WORK AND CHALLENGES  
TO ITS SUCCESSFUL IMPLEMENTATION

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## ABSTRACT

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The Department of Defense is in the process of implementing a Capabilities-Based Planning requirements-to-resources system, and the Chairman of the Joint Chiefs of Staff recently issued several instructions to formally implement the process. This Strategy Research Project shows the historic rationale for moving to a capabilities-based process and demonstrates the analogous nature of capabilities-based planning in civilian business to capabilities-based planning for defense. The parallel between the intent of the current capabilities-based planning process and the initial intent of the Planning, Programming, and Budgeting System when it was implemented in 1961 is demonstrated. The intended capabilities-based requirements-to-resources process is then explained. This paper then highlights several significant challenges to successful implementation of a capabilities-based process, and outlines proposals for addressing these challenges focusing on the need to create a Capabilities-Based Planning Framework that can be used to link planning to resources.



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## CAPABILITIES-BASED PLANNING – HOW IT IS INTENDED TO WORK AND CHALLENGES TO ITS SUCCESSFUL IMPLEMENTATION

A central objective of the Quadrennial Defense Review was to shift the basis of defense planning from a “threat-based” model that has dominated thinking in the past, to a “capabilities-based” model for the future. This capabilities-based model focuses more on how adversaries fight, rather than specifically whom the adversary might be or where a war might occur. It recognizes that it is not enough to plan for large conventional wars in distant theaters. Instead, the United States must identify the capabilities required in order to defeat adversaries who will rely on surprise, deception, and asymmetric warfare to achieve their objectives.<sup>1</sup>

—Donald Rumsfeld

A thought is often original, though you have uttered it a hundred times.<sup>2</sup>

—Oliver Wendell Holmes

### BACKGROUND

The Department of Defense (DoD) is working feverously to implement a capabilities-based requirements-to-resources system. This transformation of the requirements generation and resourcing processes holds promise for delivering more warfighting capabilities to the Combatant Commanders in a resource constrained environment, but there are also several significant challenges to its successful implementation. The purpose of this paper is to outline the reasons for the change, the capabilities-based planning process, and the most pressing challenges to its implementation.

### WHY CHANGE TO A CAPABILITIES-BASED APPROACH?

The 2001 Quadrennial Defense Review directed the initiation of a capabilities-based approach to defining defense requirements. The primary reason for this change was to address an uncertain future environment in which the United States cannot predict who its next opponent might be. The emphasis was placed on delivering capabilities to address a wide range of threats to the Nation’s security rather than on delivering the capability to defeat a specific adversary.<sup>3</sup> “The desired end state is a streamlined, collaborative, yet competitive process that produces a fully-integrated joint warfighting capability.”<sup>4</sup>

### THE TRAIN WRECK

During a visit to Joint Forces Command in July 2002, Secretary of Defense Donald Rumsfeld remarked that

What happens in the Department of Defense—and it runs me up the wall—is each service comes up with their things...and how in the world do you get those four things into a single fighting force at the end? It's a train wreck...every year when you're trying to do a budget. It's just a meat grinder trying to pull things together because they didn't start coming together earlier at a lower level. And we're going to fix that. I'll be the meat grinder.<sup>5</sup>

The left-hand side of Figure 1 represents a simplified version of the old Requirements Generation System that Secretary Rumsfeld alluded to. Each of the services had their own vision of warfighting, and generated required capabilities to fulfill their vision. These required capabilities were derived within a system where “Service developments were conceived and tested against Service-focused scenarios that often assumed away the contributions of other Services to the warfight.”<sup>6</sup> Then these service-centric capabilities were presented to DoD where, “after a massive amount of work had been done, the Joint community, at nearly the very end, attempted to integrate these independent proposals into an integrated force.”<sup>7</sup>

## **Capability-Based Approach**

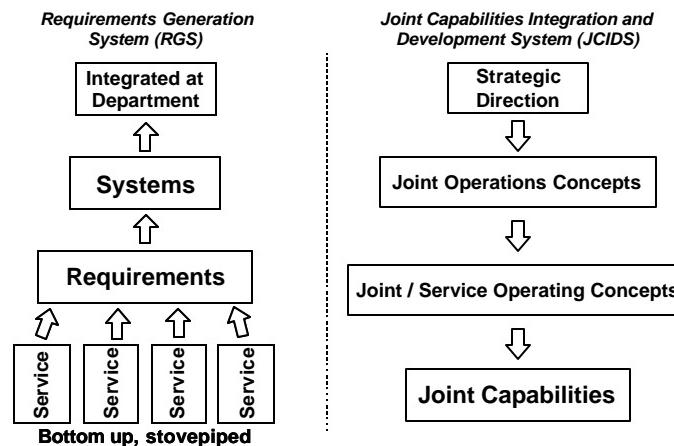


FIGURE 1. CAPABILITY-BASED APPROACH<sup>8</sup>

The new capability-based planning approach is represented by the right-hand side of Figure 1. Instead of trying to integrate Service-centric capabilities at the end of the process, the new approach inverts the paradigm. The basic principle is that the warfighting vision (how we intend to fight) and strategic direction are born joint at the DoD level at the start of the process. This does not imply that the Services no longer participate in determining the required capabilities. In fact, “Service participation is critical to developing joint perspectives throughout

the process.<sup>9</sup> The joint capabilities required to achieve the warfighting vision are derived and the services are then directed to develop these “born-joint” capabilities through “experiments, analysis, and assessments of existing proposals.”<sup>10</sup> The intent of the process is to produce warfighting capabilities that have jointness built-in from the beginning.

## BACK TO THE FUTURE

Some participants in the process believe that the shift to capabilities-based planning is a revolutionary change. In reality, “capabilities-based planning is not new at all, to either the Department of Defense or elsewhere.”<sup>11</sup> The shift to a top-down capabilities-based planning system that is focused on outputs rather than inputs is a return to the basic principles of the Planning, Programming, and Budgeting System (PPBS) implemented by Secretary of Defense McNamara in 1961. The original “PPBS was designed to establish the Secretary’s control over the Department of Defense.”<sup>12</sup> The PPBS established the Future Years Defense Plan (FYDP) and aligned resources within the FYDP into Major Force Programs (MFPs). The intent of this structure was to “facilitate analyses of capabilities by assembling complements and substitutes into mutually exclusive, collectively exhaustive sets.”<sup>13</sup> In effect, the MFPs were the first grouping of resources by defined capability groups, while the FYDP was the first grouping of resources by function rather than budget account. Among the original capabilities-based principles of PPBS was that

- Decisions should be based on explicit criteria of national interest, not on compromises.
- Needs and costs must be considered simultaneously.
- Major decisions should be made by choices among explicit, balanced, feasible alternatives.<sup>14</sup>

Perhaps the first major defense decision to be implemented though a capabilities-based PPBS approach was the restructure of the strategic retaliatory nuclear force in the 1960s. The history of this decision can be an instructive lens through which to view the ongoing return to capabilities-based planning within DoD. The analysis focused on the output of “damage inflicted and received given alternative force structures.”<sup>15</sup> Multiple scenarios were considered to account for uncertainty and ambiguity. It resulted in a large restructuring of the strategic force. It also cancelled major acquisition programs and rejected several alternatives over the objection of the Service Chiefs. Secretary of Defense McNamara used capabilities-based, systemic analyses to inform his decision-making, and then implemented these civilian-controlled

decisions that spanned policy and program. The focus was on providing a cost-effective capability to defend the Nation (defined as least cost way to achieve maximum damage differential), rather than on the performance of any specific individual system.<sup>16</sup> As Dr. Robert M. McNab noted in the December 2004 issue of the Defense Resource Management Institute Newsletter, “in terms of spirit, Capabilities-Based Planning appears to be a return to the original intentions of PPBS.”<sup>17</sup>

#### **CAPABILITIES-BASED PLANNING FOR DEFENSE – INTERNATIONAL APPROACH**

The move towards Capabilities-Based Planning for defense purposes is not unique to the United States. The Technical Cooperation Program (TTCP) is a program established by the United States, the United Kingdom, Canada, Australia, and New Zealand to foster technical collaboration between the defense communities of these countries.<sup>18</sup> As outlined in an October 2004 report of the TTCP prepared for a Capabilities-Based Planning symposium, each of the member countries is implementing a capabilities-based planning process to determine their force structure and equipping needs, tailoring the basic approach to meet their own environment.<sup>19</sup> While DoD is still working toward an agreed-upon definition of capabilities-based planning, the TTCP adopted a definition provided by Paul K. Davis, an analyst at RAND’s National Defense Research Institute. His definition is “planning, under uncertainty, to provide capabilities suitable for a wide range of modern-day challenges and circumstances, while working within an economic framework.”<sup>20</sup>

The TTCP laid out the generic planning process shown in Figure 2.<sup>21</sup> The process is designed to start with overarching guidance that drives priorities. These priorities are then viewed in the context of a wide range of scenarios representing possible futures, possible threats, and technology projections as well as friendly operational concepts that represent how the friendly force intends to fight. Note that this process is not non-threat-based versus the old so-called threat-based. It assesses capabilities against a wide range of scenarios and threats to address uncertainty rather than addressing a monolithic threat in limited scenarios and assuming that other cases are lesser stress that can be handled by the force designed to address the monolithic threat.<sup>22</sup> Due to the complex nature of the problem, the analysis is divided into manageable areas of like capability that the TTCP termed capability partitions and yields capability goals for each capability partition.<sup>23</sup> These capability goals are then assessed in light of operational concepts, current and already planned capabilities, and feedback from previous development efforts to identify areas where there is a mismatch between capabilities and capability goals. This mismatch can be a gap where a capability does not exist (potential

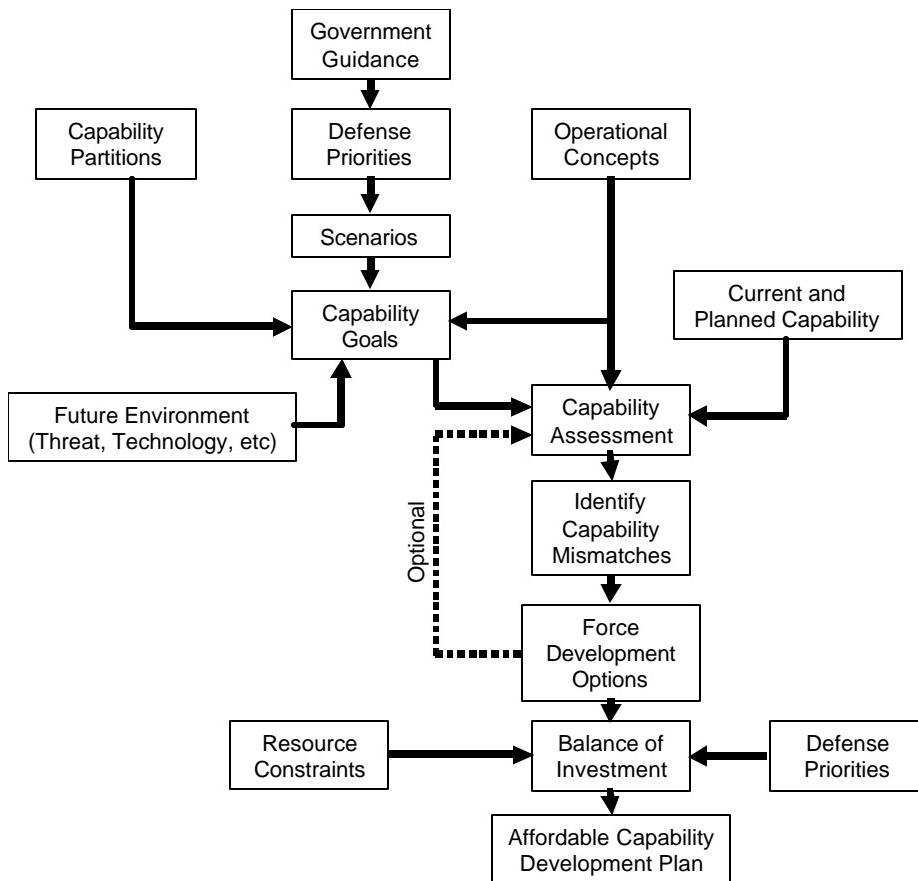


FIGURE 2. GENERIC PROCESS CHART OF CAPABILITIES-BASED PLANNING<sup>24</sup>

area for investment), or an excess where a capability overmatch exists (potential area for divestment).<sup>25</sup> The results of the capability mismatch are used to develop force options that are reviewed in light of priorities and resource constraints to inform investment decisions that yield an affordable plan for capability development.<sup>26</sup>

#### CAPABILITIES-BASED PLANNING FOR CIVILIAN BUSINESS – AN ANALOGY

The use of capabilities-based planning is widely credited for the success of several large businesses, most notably the phenomenal growth of Wal-Mart. In 1979, K-Mart was the leading discount retailer in the United States, while Wal-Mart was a regional discount outlet in the southern United States. K-Mart produced approximately twice the revenue per store compared

to Wal-Mart. By 1989, Wal-Mart was the leading discount retailer in the United States, if not the world, and was producing twice the return of K-Mart. Some analysts believe that the fundamental difference between Wal-Mart's twenty-five percent per year rise and K-Mart's decline is that Wal-Mart focused on capabilities-based planning.<sup>27</sup>

The relationship between K-Mart's approach to business and Wal-Mart's approach to business presents a suitable analogy to DoD's approach to generating military requirements. K-Mart's approach to business is analogous to DoD's old requirements generation methodology, and Wal-Mart's approach to business is analogous to the new, capabilities-based planning methodology.

K-Mart made strategic decisions to optimize sub-sections of their business. For example, K-Mart subcontracted trucking operations because they thought it was less expensive than operating their own, and even leased out some in-store departments to subcontractors based on calculations that the lease payments were more profitable than sales revenue.<sup>28</sup> This is analogous to the left-hand side of Figure 1 showing DoD's old method of generating requirements, with the Services being analogous to K-Mart's sub-sections. Each Service (or K-Mart sub-section) optimized solutions within their own area, but this did not always yield the best overall outcome.

Wal-Mart, on the other hand, concentrated on capabilities needed to produce the outcome desired, which was happy customers. They determined what the customers wanted (readily available, quality goods at competitive prices from a trustworthy source) and then determined what infrastructure capabilities were required to deliver it (logistics, distribution, communications, employees). Wal-Mart then invested heavily in processes to provide those capabilities, always focused on the end result of delivering what the customers wanted. This is referred to as a "pull" system, where the customers generate demands rather than the retailer providing items for the customer to take or leave as they choose.<sup>29</sup> In the defense analogy, the people of the United States are the customer and a suitable, feasible and acceptable defense of the United States at a reasonable cost is what the customers want. In DoD's capabilities-based planning methodology, the Combatant Commanders represent the customer as the end-user of capabilities provided by the system. The focus of the capabilities-based planning methodology is on providing the Combatant Commanders the capabilities they need to accomplish the missions that they have been given to provide the Nation a suitable, feasible, and acceptable defense in a resource constrained environment. Central to this business approach is that "a capability is only advantageous if it brings value to the customer."<sup>30</sup> Therefore, no matter how great an individual Service developed capability might be, if it does not add value to a Joint

capability that a Combatant Commander needs, then it ought to have no inherent value to the system.

A key finding of business management studies is that “only the CEO can focus the entire organization on creating capabilities,”<sup>31</sup> particularly when these moves can often create short-term losses for the business units. Secretary Rumsfeld’s adage “I’ll be the meat grinder,”<sup>32</sup> his consistent push towards capability-based planning since assuming his position as Secretary of Defense, and his ability to cancel major weapons programs (analogous to business unit losses for the Services) indicate that he understands this principle.

### **CAPABILITIES-BASED PLANNING PROCESS FOR DEFENSE – U.S. APPROACH**

In March 2003, Secretary of Defense Donald Rumsfeld tasked the Honorable Pete Aldridge, former Under Secretary of Defense for Acquisition, Technology, and Logistics, to lead a Joint Defense Capabilities Study (Aldridge) team to “examine and improve Department of Defense processes for determining needs, creating solutions, making decisions, and providing capabilities to support joint warfighting needs.”<sup>33</sup> This was not a new effort for Secretary Rumsfeld or Mr. Aldridge. In remarks delivered at the opening of the Department of Defense Acquisition and Logistics Excellence Week chaired by Mr. Aldridge on 10 September 2001, Secretary Rumsfeld lambasted the Pentagon bureaucracy as “an adversary that poses a threat, a serious threat, to the security of the United States of America.”<sup>34</sup> Secretary Rumsfeld went on to argue for a transition of focus and resources from bureaucracy to the battlefield.

#### **A SHIFT IN EMPHASIS**

In its Final Report, the Aldridge team argued that the previous requirements-to-resources system was appropriate when the United States faced a known monolithic threat that dominated other threats and could reasonably be predicted years in advance. However, the team argued, this system was not an appropriate method to identify needs when the United States cannot predict who or where its next adversary may be. According to the team, the adoption of a capabilities-based approach provides capabilities to address a wide range of potential adversaries or other security challenges, thus mitigating the uncertainty of current threat projections. The study team also proffered that a capabilities-based approach provided an effects-based rather than system-specific approach and that it addressed both materiel and non-materiel solutions to requirements, inferring that the threat-based approach was materiel-centric. Finally, the team indicated that a capabilities-based approach would be supportive of a top-down planning approach, ensuring that Service-centric “stove-pipe” solutions would not be forced on the warfighter.<sup>35</sup>

A key piece of the transition strategy envisioned by the Aldridge team was a shift in emphasis during the process. As shown in the left-hand side of Figure 3, the existing process was dominated by the resourcing phase. The new process was intended to concentrate on strategy and planning to drive a responsive resourcing phase, and then ensure proper executing and accountability to inform the next iteration.

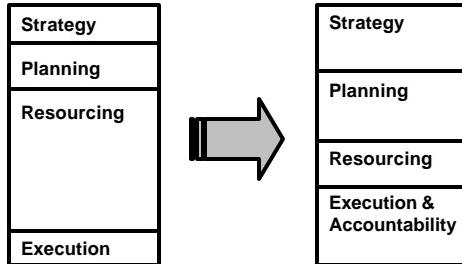


FIGURE 3. RELATIVE EMPHASIS IN “AS-IS” AND END-STATE PROCESSES<sup>36</sup>

#### A NEW PROCESS MODEL

The Aldridge team formulated the intended shift to a top-down, strategy-and-planning-driven system into the process model shown in Figure 4. This process model adheres to the

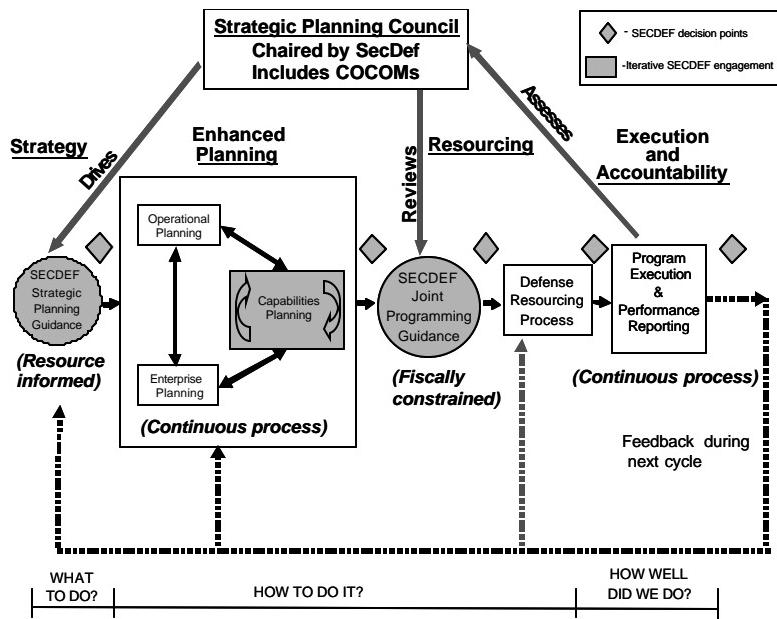


FIGURE 4. SIMPLIFIED NEW PROCESS MODEL<sup>37</sup>

concepts of the TTCP process model shown in Figure 2, while modifying the specifics to drive the United States requirements generation and resourcing systems. In a 31 October 2003 memorandum entitled "Initiation of a Joint Capabilities Development Process," Secretary Rumsfeld moved to implement the emerging process represented by this model even before the Aldridge team report was published. The stated goal was "a streamlined and collaborative, yet competitive, process that produces fully integrated joint warfighting capabilities."<sup>38</sup> The basic idea is for strategy to drive planning, and planning to drive resourcing. The services will resource the plan and be graded on how well they resource and execute the plan.

### **Strategy**

In the 31 October 2003 memorandum, Secretary Rumsfeld directed that the policy and strategy section of the old Defense Planning Guidance would be replaced by Strategic Planning Guidance (SPG) as shown in the left-hand circle in Figure 4. The SPG would be a fiscally-informed document intended to provide broad strategic guidance and to inform a continuous enhanced planning process shown in the large square on the left-hand side of Figure 4.

A major change in this early planning phase compared to the previous process was the formation of the Strategic Planning Council (SPC) represented in the top box of Figure 4. The Aldridge team recommended that a senior oversight committee be formed to advise the Secretary of Defense at key times in the process. While key members of the Secretary of Defense's staff, the Joint Chiefs of Staff, and the Service Secretaries previously performed a similar function, the Aldridge team specifically recommended that the Combatant Commander be part of this new oversight committee.<sup>39</sup> The first meeting of the SPC with Combatant Commanders' participation was held on 28 January 2004<sup>40</sup>, and the Combatant Commanders' participation was formally documented in Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 8501.01A in December 2004. CJCSI 8501.01A tasks the Combatant Commanders to meet with the SPC to advise on "the adequacy of policy, strategy, forces, and resource planning guidance"<sup>41</sup> before the SPG is forwarded to the Secretary of Defense for signature. It also tasks the Combatant Commanders to "provide input to the Joint Staff regarding Combatant Commander capability needs, redundancies, and an assessment of risks resulting from balancing tasks and available resources."<sup>42</sup> This brings the customers into the process in a meaningful way, allowing them to directly influence the derivation of capability requirements that the process will analyze. In effect, the Combatant Commanders now get to ask directly for the

long-term capabilities that their successors will need to accomplish their assigned missions, and to participate in the capability trade-off decisions.

### **Enhanced Planning Process**

Secretary Rumsfeld intended the enhanced planning process shown in the large square on the left-hand side of Figure 4 to be “an enhanced, collaborative joint planning process that will formulate and assess major issues and present them for my decision.”<sup>43</sup> This is an important difference from the previous process where the Secretary of Defense was not heavily involved in the decision making process until late in the cycle, creating conditions for what Secretary Rumsfeld referred to as “the train wreck.”<sup>44</sup> In the new process, the Secretary of Defense is involved heavily in the early parts of the process. The grey shaded areas of Figure 4 represent areas where the Secretary of Defense intends to be most involved, and the grey shaded diamonds represent decision points for the Secretary of Defense.

Within the enhanced planning process, there are three types of planning envisioned. Operational planning focuses on warfighting. Enterprise planning focuses on the non-warfighting, institutional or business functions of the Department of Defense. Capabilities planning is intended to facilitate trade decisions across capabilities, across components, and between warfighting and enterprise needs.<sup>45</sup>

The central process in capabilities planning is governed by the Joint Capabilities Integration and Development System (JCIDS). This system was initiated by CJCSI 3170.01C in June 2003, then modified by CJCSI 3170.01D in March 2004 to incorporate lessons learned and to better integrate it with the other pieces of the process.<sup>46</sup> The JCIDS top-down process for identifying needed capabilities, represented in Figure 5 adheres to the principles outlined in the TTCP process model in Figure 2.

Strategic guidance, to include the published Strategic Planning Guidance, are inputs to the JCIDS process. Another key input is the Joint Operations Concepts (JOpsC) that “describes how the Joint Force intends to operate within the next 15 to 20 years.”<sup>47</sup> It is a very broad document and does not address the means required to implement the conceptual method of warfighting.<sup>48</sup> The emphasis in JOpsC is on attributes.<sup>49</sup> The JOpsC serves as a framework for subordinate concepts and capabilities.

The concepts and capabilities that support the JOpsC are identified in Joint Operating Concepts (JOCs), Joint Functional Concepts (JFCs), and Joint Integrating Concepts (JICs). The evolving Joint Concept Development and Revision Plan defines JOC as “an operational description of how a Joint Force Commander 10-20 years in the future will accomplish a

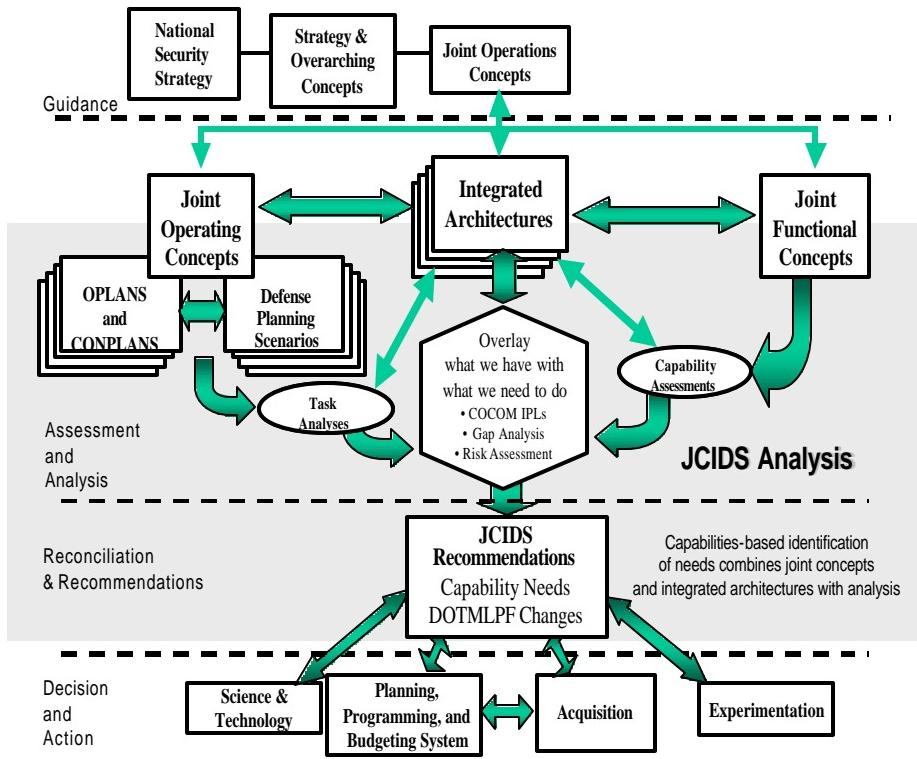


FIGURE 5. TOP DOWN CAPABILITY NEED IDENTIFICATION PROCESS<sup>50</sup>

strategic objective through the conduct of operations within a military campaign.<sup>51</sup> They are a more detailed version of the JOpsC that identifies and defines various types of joint operations.<sup>52</sup> Per CJCSI 3170.01D, the JOCs are a vision of how a Joint Force Commander will “plan, prepare, deploy, employ, and sustain a joint force against potential adversaries’ capabilities.”<sup>53</sup> The emphasis in JOCs is on effects.<sup>54</sup>

The evolving Joint Concept Development and Revision Plan defines JFC as “a description of how the joint force will perform a particular military function across a full range of military operations 10-20 years in the future.”<sup>55</sup> The JFCs are built by the Functional Capability Boards (FCBs). FCBs are teams that replace the previous Joint Warfighting Capabilities Assessment (JWCA) teams, and are chartered by the Joint Requirements Oversight Council (JROC). The FCBs are intended to be much more powerful than the JWCA teams were. They are chaired by a general officer and consist of a wide range of members from the Office of the Secretary of Defense and Service Staffs, to include acquisition officials and other key stakeholders. The

JFCs built by the FCBs should capture the bulk of the capabilities that will be assessed within their area of responsibility.<sup>56</sup> Per CJCSI 3170.01D, the JFCs must be of “sufficient detail to conduct experimentation and measure effectiveness.”<sup>57</sup> The emphasis in JFCs is on capabilities.<sup>58</sup>

The evolving Joint Concept Development and Revision Plan defines JIC as “a description of how a Joint Force Commander 10-20 years in the future will integrate capabilities to generate effects and achieve an objective.”<sup>59</sup> A JIC integrates the capabilities that cut across many operational, functional, and Service lines. For example, a JIC for forcible entry operations may contain the integration of a JOC for major combat operations, a JFC for force application, and the Army’s concept for force application in forcible entry operations. This integration must be performed across all complex overlapping capabilities. While not currently defined, “another set of documents is under development to help determine capabilities needed for those situations.”<sup>60</sup> The emphasis in JICs is on tasks while addressing capabilities and effects.<sup>61</sup>

Once the required capabilities (what we want to be able to do) are identified, the JCIDS process is intended to assesses our capacity to fulfill those capabilities. The JCIDS analysis is based on Functional Area Analysis (FAA), Functional Needs Analysis (FNA), and Functional Solution Analysis (FSA). The FAA uses the JOCs, JFCs, and JICs to identify the tasks that must be met to achieve military objectives under specified or implied conditions and standards. The output of the FAA is a list of tasks that serve as inputs to the follow-on FNA. The FNA, sometimes referred to as a capability gap analysis, analyzes the ability of current and planned joint capabilities to perform the tasks identified by the FAA. The output of the FNA is a list of capability gaps where current and planned joint capabilities are incapable of accomplishing the identified tasks. These capability gaps are sometimes referred to as potential investment opportunities. The FNA also produces a capability redundancy list that reflects areas where inefficient and excess capacity exists to accomplish the identified tasks. These redundant capabilities are sometimes referred to as potential divestiture or trade-space opportunities. The identified capability gaps and redundancies are inputs to the FSA. The FSA analyzes potential solutions to the identified capability gaps in an operational context. The results of the FSA are provided to various external systems for decision and action. If non-materiel solutions cannot be identified, then the FSA forms the basis for initiating an Initial Capabilities Document (ICD) to inform the Defense Acquisition System that a requirement exists for a new program. As shown in Figure 4, the JCIDS analytic results feed the development of the Joint Programming Guidance.

## **Resourcing**

The Joint Programming Guidance (JPG) is intended to be a fiscally constrained document that directs the Services to implement within their programs the decisions reached during the enhanced planning process. The Aldridge team acknowledged that “the vast majority of the Defense program is delegated to the Components”<sup>62</sup> and recommended that the Secretary of Defense use the JPG to explicitly identify those areas that are delegated to the Services and to provide broad guidance on how the Services should address these areas. The Joint Defense Capabilities Study team also recommended that directed and delegated guidance in the JPG be costed to demonstrate the guidance is “fiscally executable.”<sup>63</sup> It is reviewed by the SPC before it is issued, ensuring customer (Combatant Commander) participation and feedback. The JPG replaces the programmatic portion of the Defense Planning Guidance. The Services’ programs and budgets are then graded in an integrated program/budget review to ensure that they have fully implemented the guidance issued in the SPG and the JPG.<sup>64</sup>

## **SIGNIFICANT CHALLENGES FOR IMPLEMENTATION.**

As DoD implemented the Capabilities-Based Planning approach, several challenges were identified that should be addressed to fully realize the potential of this approach. These challenges include developing a common analytic agenda, establishing a capable organizational structure to execute the process, and, significantly, developing a Capabilities-Based Planning Framework that links resources to planning.

### **COMMON ANALYTIC AGENDA**

Numerous approaches are emerging as to how analyses should be performed in a capabilities-based planning environment. A common theme amongst the approaches is that, to be meaningful, similar capabilities must be analyzed under similar conditions. In other words, there must be an “apples-to-apples” comparison. This implies that common scenarios must be developed for use by all stakeholders. It also implies that a common approach to modeling and other assessment tools, using common performance data, may need to be developed and implemented across components.<sup>65</sup>

### **ORGANIZATIONAL STRUCTURE**

The FCBs are staffed primarily in a matrix-support arrangement as an additional duty by personnel who have other full-time duties within their parent organizations. The Aldridge team called for “a Department-level organization capable of identifying current and future gaps and excesses and leading DoD-wide trade analysis across warfighting and enterprise functions.”<sup>66</sup>

The team foresaw that this could require strengthening the FCBs, and one of their alternatives suggested creating a corporate planning staff within the Secretariat.<sup>67</sup> Other analysts have proposed providing more full-time manning for the FCBs.<sup>68</sup> The danger with either of these approaches is that they risk insulating the process from the stakeholders who are currently the FCB participants.

#### CAPABILITIES-BASED PLANNING FRAMEWORK.

The Aldridge team believed that “defining joint capability categories is an essential early step to implementing a capabilities-based approach, because they provide the framework for capabilities planning.”<sup>69</sup> It was their belief that capability categories are the building blocks upon which strategic guidance, analyses, and programs can be formed, and therefore the basis upon which cross-Service trades can be assessed.<sup>70</sup>

The DoD issued Management Initiative Decision (MID) 913 implementing a 2-year Planning, Programming, Budgeting and Execution (PPBE) process on 22 May 2003. This document noted that there was a lack of integration between the capability requirements determination process, the acquisition process, and the program and budget development process, and established a major goal of strategically linking any major decision across these processes. MID 913 directed that the multiple data systems for program and budget preparation be merged into a single system with an underlying structure that can support better management. It also directed the development of a Department-wide framework that could standardize the analytic basis for decisions across the processes.<sup>71</sup>

In a May 2004 report, the U.S. General Accounting Office, now called the U.S. Government Accountability Office (GAO), published a report that noted that the Future Years Defense Plan (FYDP) “does not contain a link to defense capabilities or the dimensions of the risk management framework”<sup>72</sup> and that this lack of a link seriously limits the usefulness of the FYDP. The GAO also noted that the Major Force Programs that form the framework of the FYDP are not representative of the current capabilities-based planning approach. They acknowledged that DoD has created some additional aggregations in the FYDP, but that these aggregations also do not capture capabilities-based or risk management framework analyses.<sup>73</sup> DoD rebutted the GAO report, indicating that

DoD does not intend to embed capabilities or the risk management framework into the FYDP...However, information on programs and platforms contained in the FYDP may be aligned to capabilities or the risk management framework through other analytical tools and processes. DoD is working to create decision-support tools that will link resource allocations to capability and risk management frameworks. As these tools and processes mature, DoD may be able to report

funding levels for defense capabilities and the dimensions of the risk management framework to Congress.<sup>74</sup>

GAO responded strongly in support of a FYDP that would provide transparency between resources and priorities.

Indeed, as the common report that captures all components' future program and budget proposals, the FYDP provides DoD an option for linking resource plans to its risk management framework and capabilities assessment and providing a crosswalk between capabilities and the risk management framework such that assessments of capabilities could be made in terms of the risk management framework, which balances dimensions of risk, such as near term operational risk versus risks associated with mid-to long-term military challenges.<sup>75</sup>

The crosswalk suggested by GAO is appealing, but as will be shown, difficult to put into operation.

The Strategic Planning and Budgeting Domain is "one of seven business areas the Department established to manage the transformation of the Department's business environment."<sup>76</sup> In a 12 January 2004 memorandum, John P. Roth, the Undersecretary of Defense (Comptroller) Domain Designee for the Strategic Planning and Budgeting Domain proffered a recommendation by the Program Data Structure Working Group to develop a Program/Budget Framework as a basis to evaluate the program and budget data. The intent of this action was to develop a capabilities-based framework for program and budget data integration. The proposed Program/Budget Framework is structured around the Defense Risk Management Framework that captures the four risk management objectives identified in the 2001 Quadrennial Defense Review. The Risk Management Framework categorizes risk into four groups: Force Management Risk, Operational Risk, Institutional Risk, and Future Challenges Risk. Mr. Roth's memorandum also proposed an initial set of sub-elements, or bins, as shown in Figure 6, against which all elements of the program and budget data could be aligned.<sup>77</sup> As stated in Mr. Roth's memorandum, "the ultimate goal is to establish a framework with a manageable number of categories and one where each dollar is counted once and only once."<sup>78</sup> The capability definitions that will allow this binning of the program do not yet exist.<sup>79</sup>

The Joint Staff is working to develop data elements and definitions to enable a data-centric Capabilities-Based Planning Framework. The effort is built upon the presumption that all capabilities can be deconstructed into a set of mutually exclusive elements and attributes that describe the tasks required to effect the capability. This task-deconstruction is based upon defining a new, all-inclusive Universal Joint Task List (UJTL).<sup>80</sup> Chairman of the Joint Chiefs of Staff Guide 3500.04 provides technical guidance for the formulation of the new UJTL, but does not address how the UJTL is to be used to enable cross-process analyses.<sup>81</sup>

<b>Force Management</b>	<b>Operational</b>
<ul style="list-style-type: none"> <li>• Defense Health Program</li> <li>• Central Personnel Administration</li> <li>• Central Personnel Benefits</li> <li>• Central Training</li> </ul>	<ul style="list-style-type: none"> <li>• Expeditionary Forces</li> <li>• Deterrence &amp; Protection Forces</li> <li>• Military Space Forces</li> <li>• Command &amp; Intelligence</li> </ul>
<b>Institutional</b>	<b>Future Challenges</b>
<ul style="list-style-type: none"> <li>• Force Installations</li> <li>• Commo &amp; Information Infrastructure</li> <li>• Central Logistics</li> <li>• Departmental Management</li> </ul>	<ul style="list-style-type: none"> <li>• Science &amp; Technology Program</li> </ul>

FIGURE 6. MR. ROTH'S PROPOSED PROGRAM/BUDGET FRAMEWORK<sup>82</sup>

A multi-author paper presented to a 2003 meeting of the Interservice/Industry Training, Simulation, and Education Conference proposed a Military Missions and Means Framework (MMF) as a means “for explicitly specifying the military mission and quantitatively evaluating the mission utility of alternative warfighting”<sup>83</sup> capabilities. The MMF utilizes the UJTL in a layered decomposition to specify missions, allocate means, and assess mission accomplishment given the allocation of means.<sup>84</sup>

In May of 2004, the Army Architecture Integration Cell proposed a Consolidated Operational Activities List (COAL) taxonomy that would capture all service and joint task lists in a common terminology that supports hierarchical levels of task aggregation.<sup>85</sup> This COAL taxonomy may become the foundation of what the Joint Staff terms a Universal Capability Library (UCL), capturing Service, Joint, Interagency, and Multinational task lists and concepts , though the UCL formulation is still a work in progress.<sup>86</sup> The Army Architecture Integration Cell recognized that the current Joint and Service task lists alone total approximately 1700 tasks, and that there are “too many different joint and cross service architecture building blocks.”<sup>87</sup>

The group also recognized that, as shown in this section of this paper, there are several parallel efforts to define a framework and taxonomy for integrating capabilities-based planning across the requirements, acquisition, programming and budgeting processes of the Department of Defense, and that these parallel efforts need to be converged to a common solution before they can be effective across the processes.<sup>88</sup> As The Technical Cooperation Program report on

Capabilities-Based Planning noted, “it will do little good if we replace old “stovepipes” with new, capability-based stovepipes!”<sup>89</sup> It is imperative that problems with capability identification and binning be overcome. Perhaps the most difficult, yet significant, issues to overcome are the identification and deconfliction of synergies and dependencies between capability bins.<sup>90</sup> An example of the type of question that this leads to, with no current solution identified, is “when performing analyses, how does one account for resources that enable a task that feeds multiple capabilities, or a capability that enables multiple missions to be achieved?” As novel operational concepts and functional concepts evolve that evoke even greater interaction and interdependence of forces and systems, this capability partition problem will be even more difficult to solve.<sup>91</sup> To assess the relative worth of one capability versus another, across partition boundaries, “while laudable, may be beyond the capabilities of the DoD in the near future.”<sup>92</sup>

The Army implemented a Resource Framework in 2001 that utilized resource bins. This method provides a potential structural model for the proposed DoD Program/Budget Framework. A representation of the Army Resource Framework and its ties to strategy and capabilities is shown in Figure 7. Army senior leader and higher level guidance inform The

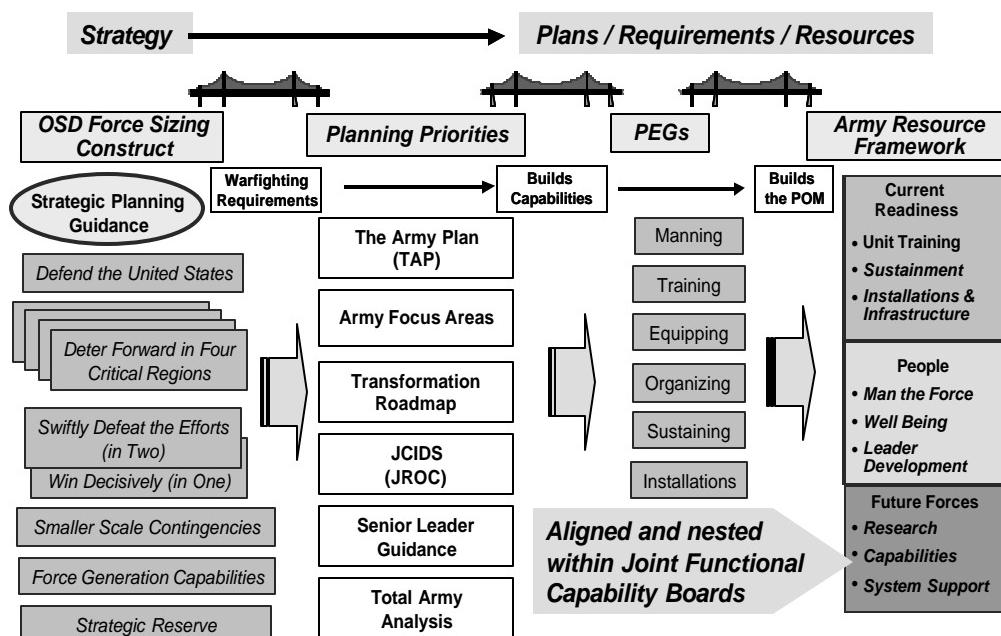


FIGURE 7. TRANSLATING DEFENSE STRATEGY TO RESOURCES IN THE ARMY<sup>93</sup>

Army Plan. Sections two and three of The Army Plan translate the strategic guidance into planning priorities and programming guidance, and this guidance is structured to align with the Army Resource Framework. The Army Plan informs subordinate plans and the Program Evaluation Groups use all of these plans to inform their allocation of resources as they build the program/budget. The program/budget database is structured to allow it to be divided by each of the categories and subcategories (bins) of the Army Resource Framework, with each dollar being counted in one and only one bin. Thus, the Army's program is exhaustively and mutually exclusively binned into the Army Resource Framework. Bins within the Future Forces category are dominated by equipment procurement issues, and programs are binned within this category to align with the FCB that they most contribute within. This allows the Army to provide a common and transparent picture of what its money is buying with some linkage back to planning priorities and strategy, but does not provide a picture of what the Army is buying these things for, which could be considered capabilities. For example, the High Mobility Multipurpose Wheeled Vehicle (HMMWV) is binned in the Focused Logistics bin, but recent operations have clearly shown that HMMWVs also contribute to Force Application.<sup>94</sup>

To address this type of problem, the Army instituted associated binning, which aggregates specific bin, unit, location and other key crosswalk data within the database to capture, in specific cases, what the Army is buying things for. A recent example of the application of associated binning is the aggregation of all costs (less manpower) for the Stryker Brigade Combat Teams which was used during capability trade-off discussions across the Department of Defense. While associated binning provides a capabilities-based binning solution for a limited number of capabilities, it is a manpower intensive process and is finitely limited by the number of keys that can be implanted in the data structure. Associated binning does not provide an exhaustive, mutually exclusive picture of all resources to inform true enterprise-wide trade-off analyses.<sup>95</sup>

## SUMMARY

To address an uncertain future environment in which the United States cannot predict who its next opponent might be, DoD is implementing Capabilities-Based Planning. This approach to planning depends on analyzing potential capabilities against a wide variety of threats and environments, then choosing amongst alternatives to deliver warfighting capability to the Combatant Commanders, who are the customers of the process. The Capabilities-Based process also brings the decision makers into the process in the early stages, to include bringing the Combatant Commander's into the requirements generating phase similar to the "customer

"pull" approach of successful capabilities-based businesses like Wal-Mart.. The process then concentrates the majority of its effort in a continuous planning phase to determine capability gaps and redundancies to inform trade decisions in the resourcing phase. To successfully implement a Capabilities-Based Planning approach, DoD will have to address several challenges, including the formation of a Capabilities-Based Planning Framework that can be used to link planning to resources.

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## ENDNOTES

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<sup>3</sup> Joint Defense Capabilities Study Team, *Joint Defense Capabilities Study – Final Report*, (Washington, D.C.: Joint Defense Capabilities Study Team, December 2003), 1-2.

<sup>4</sup> Ibid., 2-1.

<sup>5</sup> Secretary of Defense Donald H. Rumsfeld, "Transformation Trends—5 August Issue," available from [http://www.ofi.osd.mil/library/library\\_files/trends\\_153\\_transformation\\_trends\\_5\\_august\\_issue.pdf](http://www.ofi.osd.mil/library/library_files/trends_153_transformation_trends_5_august_issue.pdf); Internet; accessed 17 February 2005.

<sup>6</sup> LTC Bob Larsen, "Evolution of the JROC Warfighting Capability-Based Assessments," *Phalanx* 37, no. 4 (December 2004): 1.

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<sup>8</sup> Figure 1 was modified from Drew Miller, "Strategic Planning and Budgeting Domain Initiatives," briefing slides., Washington, D.C., Office of the Secretary of Defense, Business Management Modernization Program ,3 June 2004, 22, available from <http://www.asmconline.org/files/PDI/pdi2004workshop15.ppt>; Internet, accessed 10 February 2005.

<sup>9</sup> Larsen, 27.

<sup>10</sup> Ibid.

<sup>11</sup> Paul K. Davis, *Analytic Architecture for Capabilities-Based Planning, Mission-System Analysis, and Transformation* (Santa Monica, CA: RAND, 2002), 67.

<sup>12</sup> Vance Gordon, "DOD's Planning, Programming and Budgeting System (PPBS) – A Historical Perspective," briefing slides presented to Military Operations Research Society workshop, 19 October 2004, available from <[http://www.mors.org/meetings/cbp/presentations/Gordon\\_PPBS-Mon.pdf](http://www.mors.org/meetings/cbp/presentations/Gordon_PPBS-Mon.pdf)>; Internet; accessed 1 November 2004.

<sup>13</sup> Ibid.

<sup>14</sup> Ibid.

<sup>15</sup> Ibid.

<sup>16</sup> Ibid.

<sup>17</sup> Robert M. McNab, "Haven't We Been Here Before? The Road to CBP," DRMI Newsletter Issue 10 (1 October 2004): available from <http://www.nps.navy.mil/drmi/graphics/1oct04-newsletter.pdf>; Internet; accessed 15 December 2004.

<sup>18</sup> Department of Defense, *The Technical Cooperation Program*, Department of Defense Instruction 3100.8 (Washington, D.C.: U.S. Department of Defense, 11 September 1973), 2.

<sup>19</sup> The Technical Cooperation Program, *Guide to Capability-Based Planning*, TR-JSA-TP3-2-2004 (Alexandria, VA: The Technical Cooperation Program, 1 October 2004), 1; available from [http://www.dtic.mil/jointvision/ideas\\_concepts/auscanzukus\\_tp3cbp.doc](http://www.dtic.mil/jointvision/ideas_concepts/auscanzukus_tp3cbp.doc); Internet; accessed 15 November 2004.

<sup>20</sup> Davis, 1.

<sup>21</sup> The Technical Cooperation Program, *Guide to Capability-Based Planning*, 4.

<sup>22</sup> Ibid., 8, 9.

<sup>23</sup> Ibid, 7.

<sup>24</sup> Ibid, Figure 1.

<sup>25</sup> Ibid., 11, 12.

<sup>26</sup> Ibid., 12, 13.

<sup>27</sup> Manoj Gupie et al., "Competing on Capabilities: The New Rules of Corporate Strategy," briefing slides with commentary, Athens, GA, University of Georgia; available from <http://www.arches.uga.edu/~rdavis/competingoncapabilities.ppt>; Internet; accessed 3 December 2004.

<sup>28</sup> Ibid.

<sup>29</sup> Ibid.

<sup>30</sup> Ibid.

<sup>31</sup>Ibid.

<sup>32</sup> Rumsfeld, "Transformation Trends—5 August Issue."

<sup>33</sup>.Joint Defense Capabilities Study Team, Executive Summary.

<sup>34</sup> Secretary of Defense Donald H. Rumsfeld, "DOD Acquisition and Logistics Excellence Week Kickoff—Bureaucracy to Battlefield," Remarks, Washington, D.C., The Pentagon, 10 September 2001, available from [http://www.defenselink.mil/speeches/2001/s20010910\\_secdef.html](http://www.defenselink.mil/speeches/2001/s20010910_secdef.html); Internet; accessed 1 November 2004.

<sup>35</sup> Joint Defense Capabilities Study Team, 1-2.

<sup>36</sup> Figure 2 was derived from Joint Defense Capabilities Study Team, Figure 2.

<sup>37</sup> Figure 3 was adapted from Ken Krieg, "Capabilities Based Planning – The View From PA&E," briefing slides presented to Military Operations Research Society workshop, 20 October 2004; available from <http://www.mors.org/meetings/cbp/presentations/krieg.pdf>; Internet; accessed 1 November 2004, 12.

<sup>38</sup> Secretary of Defense Donald H. Rumsfeld, "Initiation of a Joint Capabilities Development Process," memorandum for Secretaries of the Military Departments, Washington, D.C., 31 October 2003.

<sup>39</sup> Joint Defense Capabilities Study Team, 2-9.

<sup>40</sup> GEN Richard B. Myers, *Chairman, Joint Chiefs of Staff Posture Statement*, Posture Statement presented to the Senate Armed Services Committee and the House Armed Services Committee for the record, (Washington, D.C.: Joint Chiefs of Staff, 4 February 2004); available from [http://www.dtic.mil/jcs/chairman/posture\\_statement.html](http://www.dtic.mil/jcs/chairman/posture_statement.html); Internet; accessed 23 Feb 2005.

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<sup>42</sup> Ibid.

<sup>43</sup> Rumsfeld, "Initiation of a Joint Capabilities Development Process."

<sup>44</sup> Rumsfeld, "Transformation Trends—5 August Issue."

<sup>45</sup> Krieg, 12.

<sup>46</sup> Joint Chiefs of Staff, *Joint Capabilities Integration and Development System*, Chairman of the Joint Chiefs of Staff Instruction 3170.01D (Washington, D.C.: U.S. Joint Chiefs of Staff, 12 March 2004), 3.

<sup>47</sup> Joint Chiefs of Staff, *Joint Operations Concepts*, (Washington, D.C.: U.S. Joint Chiefs of Staff, November 2003), 3.

<sup>48</sup> Larsen, 27.

<sup>49</sup> CDR Todd Kiefer, "Capabilities Based Planning & Concepts," briefing slides. Washington, D.C., Joint Staff J-7, 22 September 2004, 11; available from [http://www.dtic.mil/jointvision/ideas\\_concepts/cbp\\_concepts.ppt](http://www.dtic.mil/jointvision/ideas_concepts/cbp_concepts.ppt); Internet; accessed 1 February 2004.

<sup>50</sup> Joint Chiefs of Staff, *Joint Capabilities Integration and Development System*, Figure A-1.

<sup>51</sup> Kiefer, "Capabilities Based Planning & Concepts," 17.

<sup>52</sup> Larsen, 27.

<sup>53</sup> Joint Chiefs of Staff, *Joint Capabilities Integration and Development System*, GL-8.

<sup>54</sup> Kiefer, "Capabilities Based Planning & Concepts," 11.

<sup>55</sup> Ibid., 18.

<sup>56</sup> Larsen, 27.

<sup>57</sup> Joint Chiefs of Staff, *Joint Capabilities Integration and Development System*, GL-8.

<sup>58</sup> Kiefer, "Capabilities Based Planning & Concepts," 11.

<sup>59</sup> Ibid., 19.

<sup>60</sup> Larsen, 27.

<sup>61</sup> Kiefer, "Capabilities Based Planning & Concepts," 11.

<sup>62</sup> Joint Defense Capabilities Study Team, 2-18.

<sup>63</sup> Ibid.

<sup>64</sup> Rumsfeld, "Initiation of a Joint Capabilities Development Process."

<sup>65</sup> Larsen, 29.

<sup>66</sup> Joint Defense Capabilities Study Team, 3-1.

<sup>67</sup> Ibid, 3-4.

<sup>68</sup> Larsen, 29.

<sup>69</sup> Joint Defense Capabilities Study Team, 2-7.

<sup>70</sup> Ibid., 2-7, 2-8.

<sup>71</sup> Miller, 13, 16.

<sup>72</sup> U.S. General Accounting Office, *Future Years Defense Program – Actions Needed to Improve Transparency of DOD's Projected Resource Needs* (Washington, D.C.: U.S. General Accounting Office, May 2004), 14.

<sup>73</sup> Ibid., 14, 15.

<sup>74</sup> Ibid., 29.

<sup>75</sup> Ibid., 17.

<sup>76</sup> John P. Roth, "Program/Budget Framework," memorandum for Directors of the Defense Agencies and Service Program/Budget Officials, Washington, D.C., 12 January 2004.

<sup>77</sup> Ibid.

<sup>78</sup> Ibid..

<sup>79</sup> Ibid.

<sup>80</sup> CDR Todd Kiefer, "Capabilities Based Planning Framework," briefing slides. Washington, D.C., Joint Staff J-7, 5 November 2004, 16; available from [http://www.dtic.mil/jointvision/ideas\\_concepts/capabilities\\_framework.ppt](http://www.dtic.mil/jointvision/ideas_concepts/capabilities_framework.ppt); Internet; accessed 1 February 2004.

<sup>81</sup> Joint Chiefs of Staff, *Universal Joint Task List Requirements Document*, Chairman of the Joint Chiefs of Staff Guide 3500.04 (Washington, D.C.: U.S. Joint Chiefs of Staff, 1 March 2003).

<sup>82</sup> Figure 6 is adapted from Roth.

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<sup>84</sup> Ibid.

<sup>85</sup> David May, "Consolidated Operational Activities List (COAL) Taxonomy Proposal," briefing slides, 12 March 2004; available from [http://www.dtic.mil/jointvision/ideas\\_concepts/dm\\_coal.ppt](http://www.dtic.mil/jointvision/ideas_concepts/dm_coal.ppt); Internet; accessed 1 February 2005.

<sup>86</sup> Kiefer, "Capabilities Based Planning Framework."

<sup>87</sup> May.

<sup>88</sup> Ibid..

<sup>89</sup> The Technical Cooperation Program, 8.

<sup>90</sup> Ibid.

<sup>91</sup> Ibid., 14.

<sup>92</sup> McNab.

<sup>93</sup> Figure 7 is adapted from COL George Prohoda, "Analysis Support to the FD," briefing slides presented to Military Operations Research Society workshop, 19 October 2004, available from <<http://www.mors.org/meetings/cbp/presentations/Prohoda.pdf>>; Internet; accessed 1 November 2004.

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